

N00639.AR.002127  
NSA MID SOUTH  
5090.3a

MINUTES AND AGENDA FROM THE 19 NOVEMBER 2013 BASE REALIGNMENT AND  
CLOSURE CLEANUP TEAM MEETING MILLINGTON SUPPACT TN  
11/19/2013  
RESOLUTION CONSULTANTS



## Agenda / Meeting Minutes

### BCT meeting

### NSA Mid-South

November 19, 2013

#### Attendees

Roger Donovan	TDEC (Nashville)	(615) 532-0864	<a href="mailto:roger.donovan@state.tn.us">roger.donovan@state.tn.us</a>
Charles Burroughs	TDEC (Nashville)	(615)-532-0863	<a href="mailto:charles.burroughs@state.tn.us">charles.burroughs@state.tn.us</a>
Howard Hickey	NAVFAC Mid-West	(847) 688-5999	<a href="mailto:howard.hickey@navy.mil">howard.hickey@navy.mil</a>
Harvey Pokorny	NAVFAC Mid-West	(847) 688-2600 x 611	<a href="mailto:harvey.pokorny@navy.mil">harvey.pokorny@navy.mil</a>
Jack Carmichael	USGS (Nashville)	(615) 837-4704	<a href="mailto:jkcarmic@usgs.gov">jkcarmic@usgs.gov</a>
Jim Heide	NSA Mid-South	(901) 874-5467	<a href="mailto:jim.heide@navy.mil">jim.heide@navy.mil</a>
Ursula Robinson	NSA Mid-South	(901) 874-5918	<a href="mailto:ursula.robinson@navy.mil">ursula.robinson@navy.mil</a>
Rachel Methvin	NSA Mid-South	(901) 874-5904	<a href="mailto:rachel.methvin@navy.mil">rachel.methvin@navy.mil</a>
Debbie Zanot	NSA Mid-South	(901) 874-5368	<a href="mailto:deborah.zanot@navy.mil">deborah.zanot@navy.mil</a>
Robert Morrison	NSA Mid-South	(901) 874-5923	<a href="mailto:robert.n.morrison1@navy.mil">robert.n.morrison1@navy.mil</a>
David Criswell	NAVFAC BRAC PMO	(843) 743-2130	<a href="mailto:david.criswell@navy.mil">david.criswell@navy.mil</a>
Monique Nixon	NAVFAC LANT	(757)-922-4699	<a href="mailto:monique.nixon@navy.mil">monique.nixon@navy.mil</a>
Jan Nielsen	NAVFAC LANT	(757) 322-8339	<a href="mailto:janice.nielsen@navy.mil">janice.nielsen@navy.mil</a>
Stacin Martin	NAVFAC LANT	(757) 322-4780	<a href="mailto:stacin.martin@navy.mil">stacin.martin@navy.mil</a>
Scott Powell	Lee and Ryan (IN)	(248) 969-7290	<a href="mailto:spowell@leeandryan.com">spowell@leeandryan.com</a>
Matt Teglas	QE2 (Knoxville, TN)	(865) 689-1395	<a href="mailto:mteglas@qe2llc.com">mteglas@qe2llc.com</a>
Corey Coleman	Resolution Consult.	(901)372-7962	<a href="mailto:ccoleman@ensafe.com">ccoleman@ensafe.com</a>
Ben Brantley	Resolution Consult.	(901) 372-7962	<a href="mailto:bbrantley@ensafe.com">bbrantley@ensafe.com</a>

**Participants via phone:** Harvey Pokorny NAVFAC Mid-West  
Howard Hickey NAVAC Mid-West  
Stacin Martin NAVFAC LANT  
David Criswell BRAC PMO-Southeast  
Scott Powell Lee & Ryan

#### Visitors

Commander Kendall – new Public Works Officer.

#### AGENDA TOPICS

##### BRAC

- AOC A Optimization
- SWMU 15 Investigation
- BRAC MRP Program – Horse Stables (Skeet Range #2)

##### ER,N

- MRP Program - UXO 1 and 2 data presentation
- SWMU 39 Sub-Slab Perched Groundwater Data
- SWMUs 17 and 22 SAP Status
- SWMU 39 Fluvial Groundwater LTM status
- RCRA Permit – SWMU Inspection Requirements
- Parking Lot Items
- Review Action Items and schedule next BCT meeting

### **BRAC – AOC A Optimization**

Ben B. with Resolution Consultants discussed the carbon substrate injections along the perimeter road (10 wells) and Sub-Plume D (21 wells) which were completed in July 2013. Data from the semi-annual and comprehensive annual AOC A groundwater sampling events (March and August 2013) were also presented to the Team. It was the first time that the AOC A wells have been sampled since 2011 due to the transition in Navy contracts. Decreasing or stable TCE concentrations continue in the former treatment areas with the exception of a couple of treatment area wells at Sub-Plume A where some TCE rebounding (though < 100 ppb) was noted. The only unusual result was in groundwater samples collected from 007G48LF, located at the former Base property boundary. Historically, this well has been clean and bounded the northeast section of the TCE plume where it leaves the former Base property. TCE concentrations of 57 and 83 ppb were detected in the well in July 2013. Projecting flow lines upgradient from the well indicate the contamination may be originating from the infield area where well 007G31LF is located, which had TCE concentrations of 126 and 130 µg/L in 2013. This infield well also has PCE, 1,1-DCE, and carbon tetrachloride; contaminants which are also present at 007G48LF. Resolution Consultants is currently preparing the LTM/Progress report and anticipates a draft for Navy review in January 2014.

Roger D. asked whether the recent injections may have displaced the plume (approximately 200K gallons of water were injected into the aquifer during the injections). Ben B. stated it was plausible and that normally a steady increase in concentrations is noted when a plume begins shifting versus a drastic and sudden increase from non-detect. Recommendations on how best to address this well will be included in the upcoming LTM/Progress report.

### **ER, N SWMU 2 (Southside Landfill)**

Matt Teglas with QE2 presented the January and July 2013 groundwater monitoring data. The measured VOC concentrations were consistent with the two years of past monitoring and remain below the alternate clean up levels TDEC approved in 2010. Wells 002G03DA and 002G28DA have the highest concentrations but remain below the ACLs (TCE – 6,522 µg/L, cis 1,2-DCE 25,217 µg/L, VC – 522 µg/L). The only atypical element in the data set was from the July sampling event at well 002G02DA, located near the Patrol road, where low level, J flag results for TCE, cis 1,2-DCE, and VC were noted. Matt T. indicated they will continue monitoring the well and said all SWMU 2 wells have been inspected, maintained, and access remains clear to them. Additional brush clearing/tree removal maintenance was conducted along the fence lines in October 2013 to maintain the SWMU 2 LUCs (the first phase of brush clearing/tree removal occurred during the summer of 2012).

#### **ER,N SWMU 14 – 2013 HRC Injections Event**

Remedy optimization was conducted by QE2 at SWMU 14 in April 2013 in an effort to bio-remediate the residual low-level (< 44 ppb) PCE and TCE concentrations remaining in the loess groundwater. A Hydrogen Release Compound (HRC) substrate injected into the water table at 27 locations was delivered by DPT in April 2013 to treat the entire plume area. While only three months passed between the injections and the July monitoring event, a significant hydrogen increase was noted in well 014G13LS. Dissolved iron also increased in the southern area of the plume. Four monitoring wells are sampled semi-annually as part of the SWMU's LTM program; however, contaminant concentrations have remained relatively unchanged over the past two years. Data from the upcoming January 2014 event will be documented in a tech memo along with an evaluation of the remedy's effectiveness. Matt T. indicated it might take a year before improvements in water quality are noted.

The Team discussed abandoning the SWMU 14 wells that are not being used, which includes four to five wells used for water level monitoring only or the former injection of carbon substrate. Matt T. will recommend wells proposed for abandonment in the LTM tech memo following the January 2014 sampling event. Roger D. suggested evaluating whether other SWMUs had wells that could be abandoned. Matt T. stated they would recommend wells to be abandoned to the Navy and after consensus is reached, non-essential wells will be recommended for closure either in a tech memo or in the next progress report to TDEC for concurrence.

#### **BRAC SWMU 15 Investigation – Soil Gas Survey**

Ben B. presented the preliminary results of the soil gas survey data collected north and east of the SWMU 15 – the former fuel farm. Several former fuel tanks were located east of the SWMU 15 and were suspected as possible source areas of the benzene detected in the fluvial deposits groundwater. Using 52 soil gas probes, set 3-feet below ground, with a two-week residence time, the survey indicated very little benzene in the soil gas. Elevated TPH was noted in two locations: one within the former No. 3 tank farm (former tanks 1242, 1243, and 301) – east of the SWMU 15, and lesser levels north of SWMU 15. Since no source areas were associated with the former tank areas, additional investigations are to focus on the area between the former SWMU 15 removal area and the October/November DPT groundwater sample locations. Five upper fluvial monitoring wells were proposed to the Team with a contingency of five additional wells. Ben B. indicated that funding was already in place to conduct this next phase of work and that they could implement field work by February 2014. Roger D. asked whether TCE was present in any of the SWMU 15 wells. Trend graphs were presented showing TCE was absent or below the 5 µg/L MCL in five of the six SWMU 15 wells, while well 015G01LF had been increasing over time (concentrations of 24 and 76 µg/L were measured in 2013). The well will continue to be evaluated through semi-annual monitoring to determine whether corrective action is necessary.

### **BRAC Horse Stables Skeet Range #2**

David Criswell w/ NAVFAC BRAC PMO said the soil removal action was completed in the summer of 2013 at the former Horse Stables Skeet Range #2 resulting in 1,700 tons of lead and PAH contaminated soil being removed from two areas. No surprises were indicated in the confirmation soil samples. Bad weather delayed reseeding so that is the last item that remains to be addressed. The report was submitted for regulatory review the week of November 20<sup>th</sup>, 2013. David C. also said the Millington Industrial Development Board (MIDB) is selling a 5.7 acre parcel of land near Veteran's Parkway and Dakar to WAM Industries. The proposed parcel is not within an active SWMU, over a plume area, or near any monitoring wells. The reuse will be for warehouse space. The Navy is working through the proper notification channels and the MIDB anticipates closing at the end of December.

### **ER,N UXO 1 and 2 RFI Data**

Resolution Consultants provided an overview of the UXO 1 and 2 RFI data. The Pistol Range (UXO 1) data indicated PAHs above the PALs within the berm and below its natural grade; therefore, the earlier SI recommendation of a 1-foot soil scrape to remove lead from the berm face is no longer a remedy under consideration. Lead and PAHs were identified in surface soil over a multi-acre area of the expected shot and target fall zones of the skeet ranges #1 and #2 (UXO 2). Most of the PAL exceedances were in the surface soil interval with significantly fewer in subsurface soil (2 for lead and 9 for PAHs). The human health risk associated with residential, recreational, and site-worker reuse scenarios concluded that PAHs pose a risk under the three scenarios, while lead poses a risk under the residential and site-worker scenarios. The CMS (or like document) will take into account areas of higher risk and integrate the recommended remedy with the desired future use. The following components will also be considered in the risk management: clay-pigeon accumulation areas, signage and communication fact sheets, reduced mowing of open areas, and intentional plantings to discourage recreational users. TDEC indicated that the approach sounded reasonable, and there was discussion of native grasses and trees that may encourage phytoremediation. Ben B. stated the RFI report was in preparation and should be ready in December (the report was submitted on 12/18/2013).

### **Base Master Plan Discussion**

Bob Morrison, the Base's Master Planner, presented the long-term development plan for NSA Mid-South. One of the key purposes of the presentation was to understand the developmental plans for the UXO 1 and 2 areas so appropriate risk management decisions could be included in the remedy. The previous Master Plan was issued in 1971, and the subsequent one was interrupted by the BRAC realignment which had major impact to goals of the installation. The near term (Phase I) development goal is building-footprint reduction so energy and maintenance requirements are reduced. Additionally, natural areas are to be preserved with increases in sustainable technologies and pedestrian and non-traffic routes within the Base. The Navy Exchange will also be moved from its current location

(overlapping with UXO 1 and 2) to the northwest portion of the Southside and joined with the Commissary. There are no long-term redevelopment plans for the UXO 1 and 2 areas.

#### **ER,N SWMUs 17 and 22**

Corey Coleman w/ Resolution Consultants discussed the SAP status for SWMUs 17 (former waste oil tank at S-9) and 22 (former diesel tank at S-75). Both SWMUs underwent RFIs; however, the Navy intends to address a sub-surface soil data gap associated with a former tank at SWMU 22 and re-evaluate groundwater at SWMU 17 to determine whether a 1,2-dichloropropane exceedance remains in the fluvial deposits groundwater. Proposed groundwater and sub-surface soil sample locations were shown for SWMUs 17 and 22, respectively. The SAP was submitted on November 19, 2013 for regulatory review and was approved.

#### **ER,N SWMU 39 Loess Groundwater**

Resolution Consultants presented the results of the perched groundwater investigation at SWMU 39. Five temporary monitoring wells were constructed in August 2013 in and around the former excavation area to determine whether the VOCs identified in the excavation were localized to it or in perched groundwater outside the former excavation. Vinyl chloride was the only contaminant detected above its MCL (found in the well set within the former removal area); however, lesser concentrations were also detected in the undisturbed area south of the former excavation. Other cVOCs included cis-1,2 DCE and TCE in addition to several other petroleum related contaminants (benzene, ethylbenzene, xylenes and naphthalene) were detected in groundwater both in and outside the former excavation area. Data from the 2000 RFI were also presented to the Team to illustrate whether historical sample locations coincided with newly sampled areas. Benzene and 1,2-DCE were detected above their RSLs in a perched groundwater sample collected approximately 50 feet east-southeast of the recent configuration of wells. VOCs were absent in the three fluvial deposits groundwater samples collected near the former removal area; therefore, it was recommended that the fluvial groundwater not be further evaluated. The path forward was to collect another round of water levels and verify the northeast groundwater flow direction. If the flow direction was consistent, 5 new monitoring wells were proposed that generally encircled the recent configuration. TDEC indicated that the number of wells and locations looked adequate and that the Navy may want to consider treating the wells with the exceedances at the time of any remedy implementation.

#### **ER,N SWMU 39 Fluvial Groundwater Deposits**

Scott Powell with Lee & Ryan presented the SWMU 39 investigative, remedial history and analytical results of the 2013 third quarter groundwater monitoring event. Rebound of TCE was noted in two fluvial deposits wells (039G02LF and 039G04LF), rebound of daughter product c-1,2 DCE was noted in three wells (039G03LF, 039G04 and 039G22LF) and rebound of daughter product VC was noted in one

well (039G22LF). Initially, permanganate injections were thought to be responsible for the rebound; however, the analytical results over time do not support this conclusion. Scott P. stated that based on historical monitoring data as groundwater levels go down in the fluvial deposits the concentrations of VOCs increase. This is assumed to be associated with the pressure drop in the overlying fine grain loess deposits, which may be allowing more downward seepage of contaminants. Lee & Ryan proposed soil sampling beneath Building 203 at 5 locations, upgradient of the former treatment areas, to evaluate whether a VOC source in soil is responsible for the persistent VOC detections. Roger D. requested additional information on the soil investigation; however, Harvey P. stated that the Navy has not reviewed the proposed soil boring Work Plan and did not want to speculate on the exact assessment approach at this time. Harvey P. stated quarterly groundwater monitoring would continue. The next scheduled groundwater sampling event is in December 2013 and quarterly monitoring is to continue.

#### **LUC Inspection Requirements**

Rachel M. and Ben B. discussed the confusion associated with the LUC inspection requirements outlined in the RCRA permit. The LUC inspections are being conducted on the Northside through the certification requirements that the City of Millington and the Millington Airport have for the transfer parcel. The RCRA permit states LUC inspections are to be conducted "periodically"; however, it is unclear what inspection frequency constitutes "periodic." TDEC stated that the frequency will need to be clarified the next time the permit is issued.

#### **Previous and New Action Items**

A review of the Action Items from the March 2013 BCT was conducted and no outstanding action items were identified. The following are the new action items:

#### **Action Items from November 19, 2013 Meeting**

- 1) LTM report for AOC A is due to the Navy in early January and TDEC end of January. 007G48LF issue will be addressed with recommendations for path forward. Per Roger D. COC maps not necessary for isolated VOC exceedances.

**Person Responsible:** Ben B.                      **Status:** Pending

- 2) MRP Horse Stable – Removal report to TDEC at end of the November.

**Person Responsible:** David C.                      **Status:** Submitted week of 11/20/2013

- 3) SWMU 14 –Tech memo will be submitted at end of February after the January sampling event.

The following will be included in the LTM report:

- a. Status of HRC injections and water quality improvements.

- b. Possibly wells recommended for abandonment.

Results of the HRC injections may be presented to the WQCB in February 2014.

**Person Responsible:** Matt T.                      **Status:** Pending

- 4) SWMU 15 – schedule for installing new wells is February 2014. Funding and contracting mechanisms will be evaluated.

**Person Responsible:** Ben B.                      **Status:** Pending

- 5) SWMU 39 – Perched monitoring wells to be constructed (5) pending confirmation of groundwater flow direction. Follow-up remediation can focus on individual well(s) if nature and extent isolated to single location.

**Person Responsible:** Ben B.                      **Status:** Update. Report submitted December 18, 2013.

- 6) SWMU 2 – LTM Report going out in January 2014.

**Person Responsible:** Matt T.                      **Status:** Pending

- 7) UXO 1 and 2 – RFI report to TDEC in December; Navy to complete RAA and preferred alternative to be submitted to TDEC in tech memo.

**Person Responsible:** Ben B. and Geoff P.                      **Status:** RFI submitted on 12/13/2013

- 8) SWMU 17 and 22 – SAP submitted to TDEC today. Pending approval and implementation.

**Person Responsible:** Roger D.                      **Status:** Approved on Dec. 11<sup>th</sup>, 2013.

The next BCT meeting is scheduled for March 26<sup>th</sup>, 2014. The meeting adjourned at 4:30 PM on November 19<sup>th</sup>, 2013.